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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicants: Fore, et al.

Serial No.: 10/086,316

Filing Date: March 1, 2002

Docket No.: 4287-008

Title: Pay-Out Tube

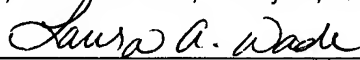
Examiner: Scott J. Haugland

Group Art Unit: 3654

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Laura A. Wade

**APPEAL BRIEF**

**(1) REAL PARTY IN INTEREST**

The real party in interest is X-Spooler, Inc. of 235 Cherokee Trail, Canton, North Carolina 28716.

**(2) RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences to the best of Applicants' knowledge.

**(3) STATUS OF CLAIMS**

Claims 1-24 are currently pending in the application. Claims 1-9 are allowed, and claim 20 is objected to. Claims 10-19 and 21-24 are rejected. Accordingly, Applicants appeal the rejection of claims 10-19 and 21-24.

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#### **(4) STATUS OF AMENDMENTS**

All amendments have been entered.

#### **(5) SUMMARY OF INVENTION**

Cable and wire – such as television cable, telephone line, electrical wiring and the like – are typically shipped and dispensed at retail in a cardboard box or similar container holding a predetermined length of the cable. Prior to placement in the container, the cable is typically wound in an overlapping figure 8 pattern that results in a radial opening through the completely-formed cable winding. The end of the cable disposed interiorly of the winding is directed from inside the winding through the radial opening formed in the winding and through an opening in the container, allowing the cable to be dispensed from the container in a generally smooth process. That is, the cable is “unwound” from center of the winding as it is drawn through the opening in the container.

A pay-out tube is generally a cylindrical member disposed in the container opening, that extends into the radial opening of the winding itself in order to tend to prevent the opening from collapsing during handling and storage and as the cable is progressively dispensed. The pay-out tube is also affixed to the container, to hold it in place through the opening and to orient the axis of the tube generally perpendicularly to the face of the container having the opening. With this arrangement, the interior end of the cable can be threaded through the pay-out tube. The tube functions as a guide that facilitates the uncoiling of the cable loops so that the cable may be dispensed in a fashion ready for application.

Pay-out tubes are well known and commonly used in the cable industry. For example, Applicant's previous pay-out tube design is cited as prior art in this application. Known pay-out tube designs have various drawbacks and disadvantages. First, many pay-out tubes are difficult to install and attach to the container opening. Second, many conventional pay-out tubes provide no means of retaining and holding the terminal end of the cable once pulled from the winding. The terminal end of the cable is left to hang free and uncontrolled, exposing

it to potential hazards such as cutting or crushing, requiring the protruding portion to be snipped as waste prior to extracting a subsequent length of cable for use. When the protruding cable is kept short to avoid such hazards, the terminal end of the cable often inadvertently retracts within the winding in the container, requiring a difficult and time-consuming “fishing” procedure to locate and extract it. Third, some conventional pay-out tubes have a tendency to become crushed or distorted in handling and usage, thereby compromising the uncoiling and dispensing function normally provided. Fourth, although the figure 8 winding pattern is designed to reduce the tendency for kinking or “pigtail” of the cable during the dispensing operation, several factors – such as cable variations that may occur during manufacturing, occasional winding irregularities that may occur in the production of the winding, and winding shifts that may occur during storage and handling – sometimes result in failure of the cable to fully uncoil during the dispensing operation. This results in an interruption of the cable dispensing process by pigtail and/or in the development of damaging kinks in the cable.

The pay-out tube of the present invention overcomes these deficiencies in the prior art. The pay-out tube is easily and securely affixed to the container, includes an integral retainer to secure the terminal end of the cable, and includes a plurality of structural ribs integrally formed in the pay-out tube walls that provide rigidity and prevent the pay-out tube from being crushed or bent in use. The elliptical shape of the pay-out tube resists cable kinking and pigtail during dispensing, and the location of the ribs along the major and minor axes preserves the cylindrical shape for the operational lifetime of the pay-out tube, *i.e.*, until all cable has been dispensed from the container.

## **(6) ISSUES**

Whether claims 10 and 22 are anticipated by 35 U.S.C. §102(b) by U.S. Patent No. 5,368,245 to Fore (“Fore”)?

Whether claims 10-16 and 22-24 are obvious under 35 U.S.C. §103(a) over Fore in view of U.S. Patent No.3,516,111 to Heyman ("Heyman")?

Whether claims 17-19 and 21 are obvious under 35 U.S.C. §103(a) over U.S. Patent No. 5,520,347 to Bass *et al.* ("Bass") in view of U.S. Patent No.4,057,203 to Newman *et al.* ("Newman")?

## **(7) GROUPING OF CLAIMS**

The claims should be grouped as follows:

Group I: claims 10-13, 22-24

Group II: claims 14-16

Group III: claims 17-19, 21

All claims in each group stand or fall together.

## **(8) ARGUMENT**

### **A. Fore does not anticipate claims 10 or 12.**

Anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention. *Rockwell Intern. Corp. v. U.S.*, 147 F.3d 1358, 47 U.S.P.Q.2d 1027 (Fed. Cir. 1998). That is, every element and limitation of the claim must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990).

While the PTO may give a claim its broadest reasonable meaning when determining patentability, *Burlington Industries, Inc., v. Quigg*, 822 F.2d 1581 (Fed. Cir. 1987), the Examiner cannot ignore the "reasonableness" limitation. In differentiating between reasonable and unreasonable interpretations, the basic rules of claim interpretation apply. Terms in a claim must be given their plain and ordinary meaning unless the applicant has clearly provided a contrary definition in the specification. *In re Zletz*, 893 F.2d 319 (Fed. Cir. 1989). *See also*, MPEP § 2111.01.

Terms and phrases of a claim must be construed in harmony with the Applicants' written description. "[The mandate of broadest reasonable interpretation during prosecution] does not relieve the PTO of its essential task of examining the entire patent disclosure to discern the meaning of claim words and phrases." *Atlantic Thermoplastics Co., Inc. v. Faytex Corp.*, 970 F.2d 834 (Fed. Cir. 1992), *reh'g in banc denied*, 974 F.2d 1279 (Fed. Cir. 1992).

Further, the interpretation given to claim terms and phrases must be consistent with the interpretation that would be given by one skilled in the art. *In re Cortright*, 165 F.3d 1353 (Fed. Cir. 1999). "It is axiomatic that, in proceedings before the PTO, . . . claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990). See also, MPEP § 2111.01.

Claims 10 and 22 are directed to a cable pay-out tube with a novel cable retainer. The retainer comprises a plurality of flexible leaves or fingers, formed in the surface of the pay-out tube collar, as depicted in Figures 7 and 8. Claim 10 recites, in pertinent part:

a cable retainer adapted to be disposed exteriorly of the cable container for receiving an end portion of the cable housed within the cable container and retaining the same, the cable retainer including a surface divided by one or more slits that form at least two sections with at least one of the two sections being deflectable and which deflect at least partially open in response to the end of the cable being inserted between the sections

The retainer of claim 22 is defined similarly, as "a surface having at least one slit formed therein that defines two sections." By the plain language of claims 10 and 22, the cable retainer comprises at least two sections of a surface, and at least one of the sections is deflectable. The claims clearly recite that the sections comprising the cable retainer are sections of a surface – a surface that has been divided into those sections by at least one slit formed therein.

Fore discloses a pay-out tube having a clip attached to an exterior surface thereof for retaining the cable end. See Figure 1.

To retain and hold the remote end of the cable extending from the container and the pay-out tube 10, there is provided a cable clip 36. . . . the clip 36 can be pulled open and a cable can be slipped thereunder in such a fashion that the cable clip 36 will retain the terminal end of the cable against the outer face of the outer flange 32.

col. 3, line 64 – col. 4, line 6. Fore explicitly states that the cable clip can be pulled open, and that a terminal end of cable slipped under it is held against the outer face of the flange – that is, between the clip and the outer surface of the flange. The clip of Fore manifestly is not a section of the surface, defined by a slit in the surface; it is expressly described as a member spaced apart from the surface, that holds cable by pressing it against the surface.

Claims 10 and 22 recite that at least one slit defines two sections of a surface. A slit is “a long, straight, narrow cut or opening.” (dictionary.com). The examiner stated, “The cable retainer includes a surface divided by a slit (between 32 and 36) that forms two sections 32, 36, one of which is deflectable relative to the other...” In Fore’s pay-out tube, 32 is a surface; and 36 is a clip. It is unclear what the examiner considers a slit. If it is the examiner’s contention that the void in the surface 32 beneath the clip is a slit, Fore fails to anticipate claims 10 and 22 since, while this “slit” may define two sections of the surface 32 (the sections to the left and right of the slit), neither of them is deformable or capable of retaining the terminal end of a cable.

On the other hand, if by “slit,” the examiner refers to the horizontal space beneath the clip (as indicated by the examiner’s assertion that the two sections formed by the “slit” are 32 and 36), Fore fails to anticipate claims 10 and 22 since this “slit” does not form two sections of a surface – what is beneath the clip (i.e., across the “slit” from the clip 36) is not a surface at all; it is a void formed in the surface 32, as clearly depicted in Figure 1. Additionally, the latter interpretation fails to comply with the plain meaning of claim terms. A slit is defined as a long, straight, narrow cut or opening, and the space beneath the clip 36 is obviously not straight (it zigs and zags with the contours of the clip 36).

Furthermore, the examiner has expressly admitted in the record that the clip of Fore is distinct from the cable retainer recited in claims 10 and 22. In rejecting claims 10 and 22 under 35 U.S.C. § 103, the examiner stated, in the last sentence of page 3 of the Final Office Action, "Fore does not disclose a cable retainer including a slit surface that has a series of deflectable sections." This admission by the examiner alone compels reversal of the anticipation rejections.

No reasonable construction of claims 10 and 22 results in anticipation by Fore, for at least the reason that Fore does not disclose (as the examiner admitted) a cable retainer including a surface divided by one or more slits that form at least two sections with at least one of the two sections being deflectable. Accordingly, the rejections of claims 10 and 22 under 35 U.S.C. § 103 must be reversed.

**B. The combination of Fore and Heyman does not render the present invention obvious.**

The PTO has the burden under § 103 to establish a *prima facie* case of obviousness. When combining references, the PTO can satisfy this burden only by showing some objective teaching in the prior art, or knowledge generally available to one of ordinary skill in the art, that would motivate one to combine the relevant teachings of the references. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the applicant's invention itself. *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992).

In rejecting claims 10 and 22 under *Fore* and *Heyman*, Examiner stated,

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the container of *Fore* in association with a bushing through which cable is passed as taught by *Heyman* to retain and protect cable removed from the container of *Fore* and passed through a wall or panel during installation of the cable.

Final Office Action, page 4, lines 6-10. This proffered motivation is completely inapposite to Applicants' invention. Cable removed from a cable container through Applicants' inventive pay-out tube may or may not be subsequently passed through a wall or panel. If it is passed through a wall or panel during installation, it may or may not benefit from the bushing of *Heyman* being placed in that wall or panel, but in any case any such benefit is completely irrelevant to the pay-out tube facilitating dispensing cable from its container. Any disposition of cable subsequent to its removal from the container, including the devices used in its installation, is irrelevant to the present invention. The motivation "to retain and protect the cable removed from the container of *Fore* and passed through a wall or panel" is inapposite to the cable terminal end retainer of the present invention. Applicants' retainer does not retain or protect the cable removed from the container and passed through a wall or panel.

Rather, the purpose of the cable retainer of Applicants' pay-out tube, as clearly defined in the Specification, is to retain the terminal end of the cable following installation, or between installation jobs, *i.e.*, when cable is not being extracted from the container:

To retain cable end when not dispensing, . . . the cable end is introduced into retainer 60 causing opening of one or more slits 62a and 62b due to deflection of one or more segments 63a, 63b, 63c, or 63d and allowing



cable end to pass through slits 62a and 62b. The cable is held in place by the binding action of one or more segments 63a, 63b, 63c, and 63d against cable 52.

Specification, p. 7, line 19 – p. 8, line 2. Note that it is only the cable end that is held in place by the retainer, that is, the terminal end of the cable remaining in the container – not the cable removed from the container as the Examiner suggests – that is secured by the retainer.

In fact, the Examiner's proffered motivation is not logical. The retainer formed by one or more slits in the surface of Applicants' pay-out tube holds the cable end when the cable end is inserted through the slit(s) in a direction leading back into the cable container. The retainer could not possibly "retain and protect cable . . . passed through a wall or panel during installation of the cable" as the Examiner suggests, when the cable is being fed back into the cable container through the inventive cable retainer.

In Response to Arguments in the Final Office Action, the examiner asserts, "the claims do not limit the retainer to non-dispensing use or for use on such a cable end and it does not appear that the disclosed retainer is structurally limited to non-dispensing use." Aside from the fact that such statement can only result from a failure to consider the claims in light of the specification and the invention as a whole, it is simply illogical to anyone familiar with the operation of dispensing cable from a container, much less one of ordinary skill in the art. Applicants' invention is a pay-out tube for facilitating dispensing cable from a wound supply of cable in a container. Once the desired length of cable is extracted from the container, the cable is cut, leaving a terminal end. Securing this terminal end during non-dispensing use of the container is the sole purpose of clip 36 of Fore, and of the inventive retainer of the present invention. Neither Applicants' nor prior art cable end retainers facilitate or benefit – and in fact would severely hinder if not render impossible – the dispensing of cable from the container.

Furthermore, the examiner's assertion that the disclosed retainer is not structurally limited to non-dispensing use would be soundly rejected by one of ordinary skill in the art. As clearly depicted in Figure 7, the cable retainer 60 is disposed exterior to the pay-out tube

central cylindrical wall 22. In normal use, as described above, the terminal end of the cable is fed through the cylindrical wall 22, and then inserted into the retainer 60 in a direction back into the container to secure it. It is difficult to imagine a cable dispensing operation that pushes cable into the container from which it is dispensed. On the other hand, if cable was threaded through the retainer 60 from inside the container, it would necessarily bypass the pay-out tube cylindrical member 22, rendering the entire pay-out tube moot. Hence, the claimed retainer is inherently limited to non-dispensing use (*i.e.*, retaining the terminal end of the cable subsequent to dispensing the desired quantity), and would be seen as such by one of ordinary skill in the art, further rendering the examiner's proffered motivation for substituting the retainer of Heyman for the clip of Fore inapposite.

Confusingly, the examiner purports not to modify Fore in any way by the combination with Heyman:

It is noted that the rejection does not propose modification of the teachings of Fore. Fore does not exclude the use of the disclosed dispenser with a bushing or retainer such as disclosed by Heyman. The clip of Fore is not seen to be deficient for its disclosed purpose.

Final Office Action, page 7, lines 5-9. The examiner admits there is no deficiency in the clip of Fore. While Fore may not exclude the use of a retainer as disclosed by Heyman, neither does it provide any motivation to do so. The motivation repeated by the examiner (after stating Fore's clip exhibits no deficiency), is "the clip, however, cannot provide the desirable function taught by Heyman of supporting and protecting wire that has been installed through a wall or panel." As discussed above, supporting and protecting wire that has been installed through a wall or panel is completely inapposite to the present invention, the sole purpose of which is to facilitate dispensing wire from a container – prior to the installation of that cable through a wall, panel, or anywhere else. As neither the references (not seen by the examiner as deficient in any way) nor the art generally (the examiner's "desired function" being irrelevant to a pay-out tube) provide any suggestion or motivation for combining the references to arrive at

Applicants' invention, the only remaining source for the combination is Applicants' claims 10 and 22. This is impermissible hindsight, as a matter of law.

"One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 837 F.2d 1071,1075 (Fed. Cir. 1988). "One does not start with Claim 1 and go to the prior art to see if one can piece together the [claimed invention] from the combination of older things." *Medtronic, Inc. v. Daig Corp.*, 221 USPQ 593, 606 (D. Minn. 1983). The examiner has merely deconstructed claims 10 and 22 into their individual limitations, and searched the prior art for a reference that discloses each limitation. This is impermissible hindsight. As the purported motivation for combining Fore and Heyman fails to support a *prima facie* case of obviousness, the rejection of claims 10 and 22, and claims depending therefrom, must be reversed.

The Examiner cursorily rejected claims 14-16 under the same combination. As discussed above, this combination is improper, and fails to establish a *prima facie* case of obviousness. Additionally, the Examiner stated, "Note that an end portion of cable could be retained by the retainer taught by Heyman during the cable installation process." Final Office Action, page 4, lines 12-14. This is incorrect; Applicants' retainer only retains the terminal end of the cable that is within the cable container, following the extraction and removal of cable from the container through the pay-out tube. Claim 14 recites, "retaining an end portion of the cable." The antecedent basis for "the cable" is "threading cable from the winding [inside the container] through a wall of the cable container." Thus, the cable end retained in the pay-out tube retainer is the end of the cable dispensed from the cable container, which is only secured by the retainer following dispensing of a preceding length of cable. Upon installation of cable that is secured by the retainer, the first act is to remove the terminal end from the retainer, then measure the desired length, cut it – securing the new terminal end of the dispensed cable in the retainer – and then install the cut length of cable.

The only way cable could be retained by Applicants' pay-out tube retainer "during the installation process," as the examiner asserts, would be for a user to extract a length of cable from the container, cut the cable, and insert the end of the dispensed and cut length of cable into the pay-out tube retainer while installing the other end of the cut length of cable in a wall, leaving the terminal end of the cable in the container to flop loose, and retract back into the container as prior art pay-out tubes allowed. Such a procedure would serve utterly no purpose, would be considered bizarre by one of ordinary skill in the art, and cannot be considered a reasonable interpretation of claim 14, particularly when read in light of the specification, as required. See page 7, line 16 – page 8, line 2, describing that wire is threaded from a winding within the container, through the pay-out tube, and the cable end secured in a clip or the slitted retainer of claims 14-16.

**B. The combination of Bass and Newman does not render the present invention obvious.**

Bass discloses a circular pay-out tube, with intersecting ribs. Claim 17 explicitly recites that the ribs on Applicants' pay-out tube are nonintersecting. According to Bass, "A plurality of strengthening ribs are located on the underside of the flange and extend along the outer wall of the tube, with certain ones of the ribs intersecting other ribs at right angles thereto." Abstract. See *a/so*, Figures 3, 5, and 6. "The flange is strengthened and supported by a plurality of ribs extending radially from the flat underside thereof along the outer wall of the tube for a suitable distance, a pair of ribs intersecting the radial ribs at right angles" col. 2, lines 62-65. "As best seen in FIG. 5, radially extending ribs 53, 53 are each intersected at right angles by the ribs 52 both of which lies upon a chord of the circle defined by the periphery of the stop lugs." col. 5, lines 37-40. In contrast, claim 17 recites, "the tube portion including a surrounding wall having a thickness and a series of spaced-apart, nonintersecting

ribs integrally molded into the wall.” As Newman also fails to disclose a pay-out tube with nonintersecting ribs, the proposed combination does not teach every limitation of claim 17.

Furthermore, the examiner has not articulated any suggestion or motivation, in the references or in the art, to make the proposed combination. Bass discloses a circular cross-section pay-out tube. Newman discloses a pay-out tube with an elliptical cross-section. The examiner stated, “It would have been obvious . . . to make the cross section of the pay-out tube of Bass et al elliptical as taught by Newman et al to adapt it to better fit the space provided within a coil of figure-8-wound material.” Final Office Action, page 5, lines 8-11. This conclusory statement fails as a matter of law to articulate a suggestion or motivation sufficient to support a *prima facie* case of obviousness.

Bass explicitly states that its primary application is dispensing wire from a figure 8 configuration within a box or carton. col. 1, lines 14-16, 19-23. However, Bass does not indicate that a circular cross-section pay-out tube presents any deficiency in dispensing wire from a figure-8 coil, nor is such known generally in the art. Note that the Bass patent on a circular cross-section pay-out tube was filed in 1994, seventeen years after the Newman patent disclosing an elliptical pay-out tube issued. It is beyond question that pay-out tubes with elliptical cross-section were known in the art at the time of the Bass invention, yet Bass chose a circular cross-section pay-out tube to best “fit the space provided within a coil of figure-8-wound material.”

Conversely, nothing in Newman teaches or suggests that its elliptical cross-section pay-out tube lacks sufficient rigidity, or would benefit in any way from any strengthening or stiffening members, such as the intersecting ribs of Bass.

There being no suggestion or motivation for the combination in either of the references, taken separately or together, the examiner must articulate a motivation for such combination derived from the art generally. MPEP § 2143, *et. seq.* In doing so, the examiner must provide “an explanation based on logic and sound scientific reasoning that will support a

holding of obviousness.” *Ex parte Levengood*, 28 USPQ2d 1300, 1301 (Bd. Pat. App. & Inter. 1993) (emphasis added).

To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

*Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985) (emphasis added), See *also*, MPEP § 2142 (“The examiner bears the initial burden of factually supporting any prima facie case of obviousness.”) (emphasis added).

The examiner has provided no factual support for the proposed combination, no convincing line of reasoning as to why a skilled artisan would have found the claimed invention to have been obvious in light of the teachings of the references, and no explanation based on logic or sound scientific reasoning to support the holding of obviousness. Indeed, the examiner has offered no factual support, reasoning, or explanation at all – only the conclusory assertion that modifying Bass to have an elliptical cross-section would be obvious “to better fit the space provided within a coil of figure-8-wound material.” Yet, fitting the space provided within a coil of figure-8-wound material is the very application for which Bass was designed, with full knowledge of the elliptical cross-section option and its success, *vel non*, in the cable dispensing industry for seventeen years.

The combination of Bass and Newman does not disclose each and every feature recited in claim 17 – in particular, the combination does not disclose nonintersecting ribs. Additionally, the examiner has failed to make out a *prima facie* case of obviousness, as the proffered motivation for the proposed combination is legally insufficient. Accordingly, claims 17-21 are patentably nonobvious over the cited art, and the rejections must be reversed.

**Conclusion**

For the reasons set forth above, all claims being appealed herein are patentably nonobvious over the cited art and comply with the patent laws. Accordingly, the rejections maintained by the Examiner must be reversed.

Respectfully submitted,

**COATS & BENNETT, P.L.L.C.**

A handwritten signature in black ink, appearing to read "Edward H. Green, III", with a stylized flourish extending to the right.

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## **(9) APPENDIX**

1. A pay-out tube adapted to be operatively associated with a cable container through which cable from a winding disposed within the container is fed, comprising: a generally elliptically-shaped tube having a major axis, a minor axis, an outlet end portion, and an inlet end portion; a series of spaced-apart reinforcing ribs integrally formed in the inlet end portion of the tube and generally aligned with the major and minor axes of the tube; and wherein each rib assumes a longitudinal configuration and projects towards the outlet end portion of the tube, and includes a generally arcuate-shaped outer surface.

2. The pay-out tube of claim 1 wherein the tube includes an inlet end and wherein each reinforcing rib includes a width that becomes progressively wider towards the inlet end of the tube.

3. The pay-out tube of claim 1 wherein the tube includes an inlet end and wherein each rib includes first and second ends, the first end disposed adjacent the inlet end of the tube and the second end disposed adjacent an intermediate area of the tube, and wherein the thickness of the rib increases from the second end to the first end.

4. The pay-out tube of claim 1 wherein the tube includes inner and outer surfaces and wherein the reinforcing ribs rise outwardly from the outer surface of the tube.

5. The pay-out tube of claim 1 wherein the tube includes an inlet end and wherein each of the reinforcing ribs terminate short of the inlet end.

6. The pay-out tube of claim 1 wherein the tube includes a wall structure and an inlet end, wherein each reinforcing rib includes a pair of opposed ends, one end being disposed adjacent the inlet end of the tube and the other end being disposed adjacent an intermediate area of the tube, and wherein the end of the reinforcing rib disposed adjacent the intermediate area of the tube blends into the wall of the tube.



7. The pay-out tube of claim 1 including an outer locking plate adapted to be secured to the tube and about the outside of the cable container, and a cable retainer associated with the locking plate, the cable retainer including a slitted surface that defines at least two flexible sections and wherein an end portion of a cable can be inserted into the slitted surface and retained thereby.

8. The pay-out tube of claim 7 wherein the cable retainer comprises a membrane having the series of sections formed by at least two slits.

9. The pay-out tube of claim 8 wherein the membrane is confined within a generally circular area and includes at least four sections separated in part, at least by two criss-crossing slits.

10. A pay-out tube for use with a cable container and through which cable from a winding disposed within the container is fed, comprising:

- a. a tube adapted to at least partially extend into the interior of the cable container for permitting cable disposed within the container to be fed through the tube and out of the container;
- b. a fastener for securing the tube to the cable container, the fastener being adapted to be secured to the tube such that at least a portion thereof lies exterior of the cable container; and
- c. a cable retainer adapted to be disposed exteriorly of the cable container for receiving an end portion of the cable housed within the cable container and retaining the same, the cable retainer including a surface divided by one or more slits that form at least two sections with at least one of the two sections being deflectable and which deflect at least

partially open in response to the end of the cable being inserted  
between the sections.

11. The pay-out tube of claim 10 wherein the slitted surface forms a membrane having a series of deflectable sections.

12. The pay-out tube of claim 11 wherein the membrane includes at least four deflectable sections formed by cross-slits.

13. The pay-out tube of claim 12 wherein the membrane is surrounded by a perimeter material more rigid than the material forming the sections of the membrane.

14. A method of securing an end of a cable exteriorly of a cable container housing a cable winding comprising: threading cable from the winding through a wall of the cable container; and retaining an end portion of the cable outside of the cable container by inserting the end portion of the cable through a slitted surface that defines at least two sections.

15. The method of claim 14 wherein the slitted surface includes a membrane having at least one slit that defines a series of deflectable sections that deform and deflect in response to the cable end being inserted between the sections and which further act to grip and retain the cable end.

16. The method of claim 15 wherein the membrane is formed by providing double slits in the surface so as to form at least four deflectable sections.

17. A pay-out tube for use with a cable container and through which cable from a winding disposed within the container is fed, comprising: a molded tube portion for receiving and guiding cable from the interior of the cable container to the exterior of the cable container, wherein the tube portion assumes a generally elliptical configuration having major and minor axes; and the tube portion including a surrounding wall having

a thickness and a series of spaced-apart, nonintersecting ribs integrally molded into the wall and extending from the wall such that a thickness of the individual ribs exceeds the thickness of the wall.

18. The pay-out tube of claim 17 wherein the ribs are longitudinally disposed on the wall of the tube.

19. The pay-out tube of claim 17 wherein the wall of the tube includes inner and outer surfaces and wherein the individual ribs extend outwardly from the outer surface of the wall.

20. The pay-out tube of claim 17 wherein there is provided at least four ribs with the individual ribs being aligned with the major and minor axes of the tube.

21. The pay-out tube of claim 17 wherein each rib includes opposed ends wherein the thickness of the ribs vary from one end to the other.

22. A pay-out tube and cable retainer for use with a cable container adapted to house a cable winding, comprising: a pay-out tube adapted to receive cable from the winding and guide the cable from an area interior of the cable container to an area exterior of the cable container; a cable retainer associated with the pay-out tube for receiving and retaining an end portion of a cable exteriorly of the cable container; and the cable retainer including a surface having at least one slit formed therein that defines two sections, at least one section being deflectable and which opens in response to the cable being inserted between the two sections permitting the cable to be moved between the two sections and be held by the two sections.

23. The pay-out tube and cable retainer of claim 22 wherein the cable retainer includes a membrane having at least four deflectable sections formed by a pair of cross-slits.

24. The pay-out tube and cable retainer of claim 23 wherein the membrane is formed interiorly of a perimeter and wherein the material comprising the four sections of the cable retainer are less rigid than material lying outwardly of the perimeter.